



SWARCEr NEWS

March 2009

SPECIAL POINTS OF INTEREST:

- Net nightly at 7:30 on the 147.195
- Tuesday night Net on 440 Linking system
- Next meeting:
April 6, 2009 at 7PM
FV Presbyterian Church,
307 N Ennis Street,
Fuquay-Varina
- April Program:
Skywarn Training

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SKYWARN TRAINING

Due to the snow event and threat of black ice, the Skywarn program presented by the National Weather Service has been rescheduled for our April meeting. They will be giving us details about the program and how we as amateur radio operators can get involved.

They will present a Severe Weather Spotter training program to help participants and responders understand the warning process, recognitions of severe storms and severe weather reporting.

The following topics will be covered...

- how and why buildings fail in high winds
- thunderstorm development and severity
- recognition of storm/cloud elements
- anticipating storm motion, intensity and severity based on cloud structure

Southern Wake Severe Weather 2009

March 2, 2009

730 pm – 900 pm...National Weather Service Basic SKYWARN Training

Severe Weather Spotter Training (repeat sessions)

The National Weather Service will present a Severe Weather Spotter training program to help participants and responders understand the warning process, recognitions of severe storms and severe weather reporting.

The following topics will be covered...

- how and why buildings fail in high winds
- thunderstorm development and severity
- recognition of storm/cloud elements
- anticipating storm motion, intensity and severity based on cloud structure

There is no Cost to Attend!

Location:
Fuquay-Varina Presbyterian Church
307 N. Ennis Street
Fuquay-Varina NC

Sponsored by South Wake Amateur Radio Club

For more information contact:
jeff.ornock@noaa.gov
Jeff Ornock – (919) 515-9209 ext. 223

SWAPFEST

A suggestion has been made that we have a very informal swap fest this fall. Anyone with suggestions as to a place or time, please contact Ryan Avery. We would like to have it in a place that is convenient not only to our members but others in the area.

AMATEUR RADIO NEWS

W1AW to QSY on 160 Meters

Starting Monday, March 9, Maxim Memorial Station W1AW will be using a new 160-meter frequency for its CW transmissions. To accommodate increasing activity near the current bulletin frequency of 1817.5 kHz, W1AW will move to 1802.5 kHz to reduce the possibility of interference.

BSA Updates Radio Merit Badge Requirements

The new BSA Radio Merit Badge Pamphlet includes color pictures and updated charts and text. The Boy Scouts of America (BSA) has updated the requirements needed to earn the Radio merit badge. The new requirements became effective with the publication of Boy Scout Requirements 2009. While no new content has been added to the program, the new merit badge pamphlet features lots of new information -- including color pictures and updated charts and text that reflects the changes in the Amateur Radio Service since the last pamphlet update in 2002. Approximately 4000 Radio merit badges are earned each year.

According to ARRL ad hoc Scouting Committee member Larry Wolfgang, WR1B, the new Radio Merit Badge pamphlet had been in the works for some time. "BSA has been replacing all merit badge pamphlets with new booklets using color graphics and more modern presentations," he said. "With attractive color photos and clear text explanations of the requirements, the new merit badge pamphlet is a pleasure for the Scouts to read. The new text is due in large part to the efforts of longtime Radio Merit Badge Counselor and K2BSA National Jamboree Staff member Mike Brown, WB2JWD. I am looking forward to using the new pamphlet to teach Radio merit badge at our Council's Merit-Badge-O-Ree this spring, and to having a supply of the new books available for Scouts during the 2009 summer camp season."

Wolfgang said that the requirements for the badge have been shifted around: "The old Part 4 of Requirement 7(b) Broadcast Radio was pulled out and placed in the main body of the requirements as Requirement 8. In addition, the old Requirement 8 (to visit a radio installation and discuss what types of equipment, how it was used, what types of licenses are required to operate and maintain the equipment, and the purpose of the station) was moved up to Requirement 7, so that now the three options appear as Requirement 9. The main result is one additional full requirement."

ARRL Rocky Mountain Division Director and Chairman of the League's ad hoc Scouting Committee Brian Mileschosky, N5ZGT, called the Radio Merit Badge "a perfect avenue to introduce Scouts and Scouters to the wonderful world of ham radio. Ham clubs across the nation should locate a local Boy Scout Troop, secure permission from their Scoutmaster and/or committee to teach the merit badge and deliver an exceptional Radio merit badge class. What the boys -- and their leaders and parents -- will learn in the process is a fair amount of what is part of the Technician license exam, so the next logical step after a merit badge class is an all-out recruiting effort to get that Troop involved in Amateur Radio. They'll meet new friends and have a great way of communicating while in transit to and from the field, as well as additional peace of mind through an effective means of emergency communications while in the backcountry."

Additional information can be found on the web at, <http://www.arrl.org/news/stories/2009/02/24/10667/?nc=1>

ROANOKE DIVISION CONVENTION, MARCH 14-15

The ARRL Roanoke Division Convention will be at the Charlotte Hamfest this year, March 14 & 15. The hamfest is at a new location -- the Cabarrus Arena and Events Center, 4751 Highway 49 North in Concord. The Charlotte Hamfest is still an all-indoor show and parking is free at the new facility. More details are at www.w4bfb.org.

NORTH CAROLINA EVENING NET

The North Carolina Evening Net was moved to 5:30pm a couple months ago to deal with the propagation challenges we've been facing on 75m. On Sunday, March 8 daylight savings time returns and we will also return the net to 6:30pm. The NCEN is part of the ARRL National Traffic System and meets daily on 3.923MHz.

MINUTES OF THE MARCH MEETING BY KI4TFO JENNIFER AVERY

The March meeting was cancelled due to adverse weather conditions.

SWARC FEBRUARY 2009 NET REPORT BY NC4MP MARK PERKINS

Hello everyone here is the South Wake ARC February Net Report. Very short month for February but it was long on activity. As cold as it has been during the month of February it seems as everyone was taking advantage on staying warm inside and checking into the nets. That is as Martha Stewart says "Is a Good Thing!" Always good to see a lot of participation in the nets. We have had a quite a few as of late that have gone well over an hour and not necessarily a lot of check ins to the net but they were good quality, good spirited, FUN nets, that is all you can ask for.

The numbers for the month are as follows:

Net sessions: 28
Members participating: 36
Visitors participating: 33
Total checkins 571
Average Check-ins per net: 20.3

I'd like to thank WD4FZT,KE4RUN,KA0GMY,AJ4NX,KI4WAI,WW4TLB,WA2YBM, NC4MP,N4MRW,& AJ4KZ for checking into 20 or more nets during the month. This is the like the core group that checks into practically every net we have and we thank them for doing so.

Congratulations once again to WD4FZT Dr.Bill Hoffman as he is the Check-in Champ of the month again. Thanks Dr. Bill for always being there and sharing your life's experiences with us all.

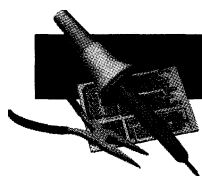
The Tuesday night 440 net that we have been having on the Carolina 440 UHF Link System has not really gone over quite like any of us had hoped. There is a lot of support for the net and everyone seems to say "Yes, We want this net on 440!" but the sad fact is that no one ever hardly checks into it at all. We have had some good nets on there with a good number of people checking in but that was really in the beginning when it was new and now that a few months have gone by I may get 4 or 5 check ins during the net and doesn't last but maybe at the most 10 minutes.

I have tried to get the word out about the net by announcing it just about every night and to promote it but it just hasn't seemed to work. Maybe not many of us have 440 capability or it is an inconvenient time, imp just not sure what the case is but it just has not been a quality net that I think the SWARC or K4JDR Ron Casey deserves. So, with that being said this Tuesday night March 10th will be our last Tuesday night 440 net on the link system. What we have had this net for about 6 months or better and I am sad to see it go but as I was talking to Ron K4JDR after last Tuesday's net we were both kind of feeling the same way that if we can't get the support we should just quit doing it. So, this Tuesday on the 10th will be our last net on the link system unfortunately.

Now that we aren't going to have the 440 nets on Tuesday night anymore we are going to still have a short abbreviated net on Tuesday's because starting on March 17th we are going to start a Trader's net. There has been a lot of interest in having one for a while now and with us not doing the 440 nets now it seems like a good time to do one. This Trader's Net will be for Ham gear and computer equipment only. So, if you have any junk Err! I mean good quality equipment that you would like to sell please stop by on Tuesday nights at 8:00 and sell or buy.

Ok folks, that is all I have for this month so until next month everyone BEHAVE yourselves and have a great day!

73,
Mark Perkins NC4MP



By Van Field, W2OQI

HF Antennas 101

Here are 10 tips and truisms that every ham should know.

1. An antenna does *not* have to be resonant to work. The only reason to make an antenna resonant is to eliminate the need for an impedance-matching device such as an *antenna tuner*. Actually, a non-resonant wire dipole antenna fed with open-wire line and an antenna tuner is a great multiband antenna.

2. Two wires are needed to power a lamp. The same is true of your antenna. The best antenna configuration calls for feeding energy from the transmitter to a balanced antenna, such as a dipole. If you can do this with a balanced, parallel-wire feed line, so much the better. However, many of us choose coaxial cable for convenience sake. The problem with coaxial cable is that it is not a balanced two-wire feed line. In fact, coaxial cable can be said to consist of *three* wires: the center conductor, the outside of the shield and the inside of the shield. RF travels on the surface of a conductor. In a parallel wire arrangement (such as ladder line), there is a balanced RF field between the two conductors. But with coax, the field is between the center conductor and the inside of the shield. This leaves outer surface of the shield braid free to get into trouble. Since it is connected to one side of the antenna, the outer braid becomes part of the antenna and the result can be RF feeding back to your station (see W2DU's excellent book, *Reflections II*). This is the reason some hams prefer to use a 1:1 balun (*balanced-to-unbalanced* transformer) at the center of the dipole to isolate the unbalanced coaxial feed line.

3. Antenna "gain" is derived by shaping and aiming RF where you want it to go. For example, so-called "beam" antennas get their name from the fact that they concentrate RF energy in a particular direction, like a flashlight. Other types of antennas, including wire antennas, can exhibit "shaped" radiation patterns (and therefore gain) as well.

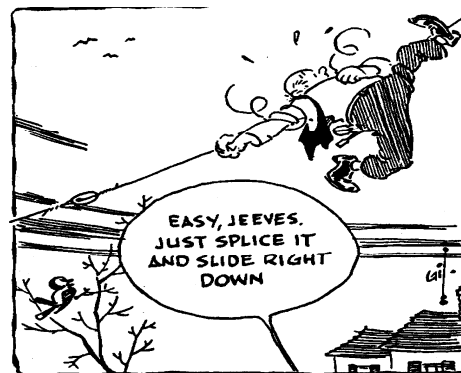
4. The function of an antenna tuner is to effect a match between the output of a transceiver and the input of an antenna system. Modern transceivers can only deliver full

power into a 50 ohm load. Antenna tuners are variable-impedance transformers that allow you to transform the antenna system impedance (which can be almost anything) to 50 ohms for the transceiver. Some antenna tuners exhibit a wide impedance-matching range. Others, such as the ones typically built into HF transceivers, have quite narrow ranges.

5. A wire antenna doesn't always have to be center fed. For instance, you can feed a long wire at the end with a two wire feed line. Connect one conductor of the feed line, but not the other. You'll need an antenna tuner at the other end of the feed line to provide a 50 ohm impedance for your radio. This type of antenna used to be called an end-fed Zepp. To work well, however, the ground side of the antenna tuner needs to be connected to a network of radial wires, or a counterpoise. Another old-time antenna is an off-center-fed dipole, called a Windom way back when. Cut a wire a half wavelength long, find the center and connect a single wire 14% off center. This also requires a counterpoise for good results. The impedance is about 600 ohms, so you'll definitely need an antenna tuner.

6. A dipole antenna does not have to be perfectly horizontal. That's the way it is usually depicted in books and magazines, but you can bend the legs of the antenna up, down or sideways. The antenna can also be on an incline, or even vertical. The shape of the antenna and its height above ground will affect its impedance at the feed point, so you may need to experiment to obtain a low SWR, if you are feeding it with coax.

7. Vertical antennas shorter than a half wavelength need a ground system. This usually takes the form of radial wires, either elevated or buried. Beware of short vertical antennas that claim to operate without radials. These designs tend to be inefficient. Yes, they "work" in the sense that they radiate some RF, but you'll enjoy much better performance with a good radial system.



HF ANTENNAS 101 CONTINUED

8. With vertical antennas there is no such thing as too many radials. The more radials you install, the more efficient your antenna system. Yes, you can reach a point where the benefits of adding more radials levels off, but that number is somewhere around 100!

9. Having a 1:1 SWR does *not* mean you have a good antenna. A 1:1 SWR only means that you have an impedance match between your transceiver and your antenna system. It says nothing about how well your antenna is working. For example, a vertical antenna with a poor

ground system can be tuned to the point where you'll measure a 1:1 SWR at your station, but the antenna is so inefficient, most of the RF is being wasted as heat!

10. Always use the best feed line you can afford. Resist the urge to be penny wise and pound foolish. This is particularly true of coax. Better (less lossy) coax will cost more, but this is the cable that is carrying your precious RF signal to and from your antenna. A good investment now will pay off in better antenna system performance.

UPCOMING HAMFESTS AND CONVENTIONS

March 14-15, 2009 Mecklenburg Amateur Radio Society Roanoke Division Convention

Concord NC

<http://www.w4bfb.org/hamfest>

April 11, 2009 Raleigh Amateur Radio Society North Carolina State Convention

Raleigh, NC

<http://www.rars.org/hamfest>

SKYWARN INFORMATION NETS & UPCOMING EVENTS

As posted on <http://www.centralcarolinaskywarn.net/>

Every Tuesday at 9:15PM on the 146.88 repeater



CAROLINA HELPING HAMS

No events listed.

More details and sign-up information can be found on links from the Ham public service calendar at: www.hampublicservice.org

LINKS OF INTEREST



South Wake ARC Club website: <http://www.southwakearc.com/>

South Wake ARC Yahoo group: <http://groups.yahoo.com/group/southwakearc/>



Piedmont Coastal Repeater Network: <http://pcrn.net/>

Carolina 440 linked system: <http://www.carolina440.net/>



Central Carolina Skywarn: <http://www.centralcarolinaskywarn.net/>

SouthEastern Repeater Association: <http://www.sera.org/>



Wake County CERT: <http://www.wakecountycert.org/>

Wake County ARES/RACES: <http://www.wakeares.org/>



ARRL: <http://www.arrl.org/>

FCC Universal Licensing System: <http://wireless.fcc.gov/uls/index.htm?job=home>



Hamfest calendar: <http://k4hm.net/calendar.php>

NC Canine Emergency Response Team: <http://www.nccert.org/>



Capital Area Radio Testing Group: <http://www.cartgroup.org>

CLASSIFIEDS

None for this month.

If anyone would like to sell or trade any ham or computer related items, please contact me and I will post them here in the newsletter.

Jim — W4VCF

SWARKer News

March 2009

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SOUTH WAKE AMATEUR RADIO CLUB

Address	Officers
PO Box 1565 Fuquay-Varina, NC 27526	President: Tim Ruffin W4TAR timruffin@earthlink.net Vice President: Tommy Williams KI4VSO ki4vso@gmail.com Secretary: Jennifer Avery KI4TFO jennavery@charter.net Treasurer: Donn Harris NC4DH nc4dh@embarqmail.com Membership Director: Dale Whitlock AI4WF ai4wf@nc.rr.com Director of Large: Steve Mowels KA0GMY ka0gmy@bellsouth.net Director at Large: Ryan Avery NC4RA rwavery@charter.net

Public Service Through Amateur Radio

South Wake ARC's primary purpose is to further the Amateur Radio Service through programs, activities, and education, in order to promote the radio knowledge, fraternalism and individual operating efficiency of our members. Further, it shall be our purpose to support the welfare of our community through public service including radio communications for emergency situations and public events, and through providing information, training, and assistance to individuals or organizations with an interest in the Amateur Radio Service.

2008 / 2009 MEMBER ROSTER

Full Members:

AA4XX Paul Stroud
 AE4PC Phil Cunningham
 AI4OZ Don Sharer
 AI4UP Vessie Whitlock
 AI4WF Dale Whitlock
 AJ4KZ Mark Womack
 K4HM Hank Montgomery
 K4ITL Danny Hampton*
 K4JDR Ronnie Casey
 K4MSE Dave Yow
 K4VJC Velda Callam
 K9RII Jim Young
 KA0GMY Steve Mowels
 KA1CZI Stan Czynnik
 KB4BLU Jim Staley
 KC4OVF Debbie Turlington
 KD4OKR Mike Ramsey
 KD4UJC Mike Callam
 KE4RUN Hargrove Davis
 KF4RDN Glenn Crissman
 KF4USQ Anna Crissman
 KG4HPE Patricia Babb
 KG4RMT Selene Montgomery

KG4WFD Chris Caudle
 KH2TI Becky Wingfield
 KI4BRZ Randy Kemp
 KI4GNC Smokey Powell
 KI4HDZ Grady Johnson
 KI4PMI Barry Emery
 KI4SHY Peggy Sharer
 KI4TFO Jennifer Avery
 KI4TWW Haley Whitlock
 KI4TWY Roy Avery
 KI4VSO Tommy Williams
 KI4WAI Harley Britton
 KI4YII Arthur Strong
 KJ4CXY Dennis Parker
 KJ4DNE Dan Britton
 KJ4DNS Ron Rasberry
 KI4YXO Gino Fernandini
 KJ4AEO Christy Fernandini
 KJ4FYX Jeremy Barnard
 KJ4GIZ David Whitehurst
 KJ4HNA David Caudle
 KJ4IHX Carl Sinclair
 KJ4IIA Fred Benson
 N4MRW Matt Wingfield

NC4BJ "BJ" Jenkins
 NC4DH Donn Harris
 NC4MP Mark Perkins
 NC4RA Ryan Avery
 NC4XX Don Turlington
 W2RDU John Fiorentino
 W4FXE Ken Medlin
 W4TAR Tim Ruffin
 W4RJF Ronald Ford
 W4VCF Jim Williams
 WA2YBM Jack Donnelly
 WB4BAH Tim Kemp
 WW4TLB Thomas Babb
WA4AZL Neil Little

Associate Members:

Nancy Avery
 Gloria Mowels
 Philip Whitehurst
 Katie Whitlock

* Lifetime Member
 New member since last newsletter